

1.(Original) A method for measuring the noise in a picture that includes a plurality of lines, comprising:

receiving a digital picture signal that includes a plurality of pixels indicative of the picture;

subdividing a line of said digital picture signal into several blocks (BL), each with several horizontally adjoining pixels, wherein a picture region (BR) includes a plurality of said blocks (BL) and the number of said blocks contained within said picture region (BR) corresponds to the number of pixels contained in each block (BL);

determining a luminance DC component value for each of picture blocks;

processing for said picture region, said luminance DC component values associated with each of a plurality of blocks within said picture region, by comparing each of said luminance DC components to a minimum threshold value and a maximum threshold value, to detect at least one homogeneous picture region (BR) within the picture;

determining a high frequency component (HP) within said at least one detected homogeneous picture region (BR);

processing said high-frequency signal component (HP) to determine the noise contained in the picture and providing a noise signal indicative thereof; wherein

said luminance DC component of each block (BL) is determined by the following relation

$$(3) \quad LP(x', y) = \sum_{i=0}^n lum(i + nx', y),$$

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where LP designates the luminance DC component of the corresponding block (BL), (x',y) designates the position of the corresponding block (BL) in the picture, lum designates the luminance value or the difference luminance value of the corresponding pixel, and n designates the number of horizontally adjoining pixels contained in the corresponding block (BL);

wherein each block (BL) contains five horizontally adjoining pixels, and for each block (BL) of the picture region (BR) which is recognized as homogeneous, a high frequency signal component (HP) is determined by the following relation

$$HP(x'y) = lum(5x', y) - 2lum(1+5x', y) + 2lum(2+5x', y) - 2lum(3+5x', y) + lum(4+5x', y),$$

where HP designates the coefficient of the corresponding block (BL), (x',y) designates the position of the corresponding block (BL) in the picture, and lum designates the luminance value or the difference luminance value of the respective pixel.

2.(New) A method for measuring the noise contained in a picture, by which the picture is described by an appropriate picture signal, comprising:

receiving a picture signal and processing said picture signal to detect at least one homogeneous picture region (BR) of the picture;

for the at least one detected homogeneous picture region (BR), measuring a high-frequency signal component (HP) contained in said picture signal; and

determining the noise contained in the picture from the high-frequency signal component (HP) and providing a noise signal indicative thereof.